ABSTRACT OF THE DISCLOSURE

[0044] A compact surface inspection optical head is disclosed which comprises a frame with two rings of apertures therein. The first set of apertures surrounding and close to a normal direction to the surface to be inspected is connected to fibers used to collect scattered radiation useful for the detection of micro-scratches caused by chemical and mechanical polishing. Where the position of these apertures is selected to be away from patterned scattering or diffraction, these apertures and their associated fibers may be useful for anomaly detection on patterned surfaces. A second ring of apertures at low elevation angles to the surface inspected is connected to fibers to collect radiation scattered by the surface inspected for anomaly detection on patterned surfaces. This ring of apertures segments azimuthally the collection space so that the signal outputs from detectors that are saturated by the pattern diffraction or scattering may be discarded and only the outputs of unsaturated detectors are used for anomaly detection. A pair of larger apertures in the double dark field positions may be employed for anomaly detection on unpatterned surfaces. Scattered radiation passing through the two larger apertures may be collected by objectives or fiber bundles.